Programa de Pós-Graduação em Matemática

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**APRESENTA:**

# The Waring problem for noncommutative algebras

***10/10/2025 — 10h00***

**https://meet.google.com/fyp-gbec-sks**


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UNIVERSIDADE FEDERAL DE CAMPINA GRANDE
CENTRO DE CIÊNCIAS E TECNOLOGIA
UNIDADE ACADÊMICA DE MATEMÁTICA

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**PPGMAT – UFCG**

# The Waring problem for noncommutative algebras

**Prof. Dr. Matej Brešar** *
University of Ljubljana and University of Maribor – Slovenia

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**Resumo.** Let $f = f(X_1, \ldots, X_m)$ be a noncommutative polynomial and let $A$ be an algebra. The Waring problem for $A$ is to find a positive integer $N$ such that, for any $f$, every element in the linear span of $f(A)$ can be written as a linear combination of $N$ elements from $f(A) = \{f(a_1, \ldots, a_m) \mid a_1, \ldots, a_m \in A\}$. We will consider this problem for different matrix algebras and also discuss its variations.

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